Math 463/563: Abstract Algebra II

Fall 2018

Instructor: William Worden
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Office: Herman Brown Hall 420
Classroom, time: HBH 227, MWF 11-11:50pm
Course webpage: www.wtworden.org/teaching/alg_2/

Office Hours: Tue 10-11:30 and Wed 3-4:30, or by appointment (or just drop in, I'm often around). My posted office hours are time that I reserve for students—feel free to come without notice, and stay as long as you like.

Textbook: Algebra (2nd Edition) by Michael Artin.

Course Topics: We will cover Chapters 11-16 (except for 13) of the text, plus some material on Gröbner bases. The course will begin with the definition of a Ring and conclude with Galois theory. This is a lot of material! While it may seem familiar in the beginning depending on your background, it will quickly cover some very technical and subtle topics which are pervasive in mathematics.

Expectations: You are expected to attend each class and do your best to follow the lectures. To get the most out of the lecture, you should look over the notes from the previous lecture in between meetings to fill in any blanks and refamiliarize yourself with the material. The lectures will closely follow the definitions and results in the book but will also attempt to give a big picture overview of each topic and help you gauge which details are important. Not attending lecture really hurts your chances at a deep understanding of the material.

Depending on your background, there may be parts of the course that seem familiar, or even easy. Alternatively, you may find yourself struggling more than others in the class. Do not let either of these deter you! If you find yourself in the first camp, there may come a time when suddenly the material changes to something unfamiliar to you, or there may be some aspect that you didn't understand as well as you thought you did, and you might miss it if you stop paying attention or attending lectures altogether. You should also feel free to come to me and tell me about your background so that I can tailor the homework to your particular situation.

If you are in the latter group, know that neither mathematics nor school is a competition. If you really find yourself struggling, or feel that you are missing some key piece of information that would cause everything to make sense, please come talk to me or find a partner or partners to work with who will encourage, rather than discourage, you.

Exams: There will be two Midterm exams, and a Final exam. The midterm exams will have an in-class component and a timed at home component. The midterm exams will tentatively be on **September 26th** and **November 7th**. If you have a conflict with either of these dates, you are required to let me know by the end of the first week of class. Otherwise, only documented medical emergencies will be accepted as an excuse for missing an exam.

The time and day for the Final Exam is not currently available. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsibility to either reschedule your travel plans or take a zero on the final.

Homework: There will be weekly homework assignments, due the following week. These homework assignments will be posted on the course web page, and on Canvas. There will typically be one or two additional problems on each assignment for students enrolled in Math 563. Students in 463 may attempt these problems for extra credit (details will be provided on the assignment).

Working on homework with others: You are encouraged to work with your classmates on homework, with the following considerations. First, you should give serious thought to an exercise, and try to come to a solution by yourself, before discussing it with others. The purpose of collaboration is to help each other understand the concepts, think about the problem, and discuss approaches to reaching a solution. Your goal should be to come out of a collaboration with an understanding of the ideas of a proof—a detailed proof should be written out by yourself, without help from others. It is your duty under the Honor Code, and in your own best interests as you prepare for exams, to follow the above guidelines.

Whether working by yourself or with others, you should never look up solutions to problems online, or use online forums to solicit assistance. If you are having trouble with an assignment, please come to office hours!

Attendance: You should attend class.

Grading: The grade breakdown is as follows:

Homework: 40%
Midterm Exams: 30% (15% each)
Final Exam: 30%

Disability Support: Students who think they may need accommodations in this course because of the impact of a disability should give me a written letter from the Disability Resource Center within the first two weeks of the course.

Disclaimer: This syllabus is subject to change, though I will do my best to avoid this. Students will be notified of any changes as early as possible, and will be consulted for feedback as these decisions are made.